

**IN THE SPECIFICATION:**

*Please amend the Specification by replacing the paragraphs with the amended paragraphs as shown below. Changes to replacement, amended paragraphs below are indicated by strikethrough and underlining.*

*Please replace the paragraph beginning on page 9 at line 1 with the following amended paragraph.*

A diagram illustrating an ROI filter 300 is provided in FIG. 3. The ~~shaded~~ area 301 (e.g., an ellipse) bounded by the boundary 303 indicates the region in which path information is retained. All paths or segments of paths that lie outside the ~~shaded~~ area 301 bounded by the boundary 303 are removed when the paths are first read from the consolidated event file 230.

*Please replace the paragraph beginning on page 16 at line 1 with the following amended paragraph.*

Referring to FIG. 6, the end point 601 of Path1 (602) and the start point 603 of Path 2 (604) fall within ~~the~~ an acceptable distance, as denoted by the time-space bubble 605 in this figure. If  $(T2-T1) < \text{Max Time}$   $(T2-T1) < \text{Max Time}$ , then the two paths can be linked.

*Please replace the paragraph beginning on page 16 at line 1 with the following amended paragraph.*

From probability theory, it is known that if we have N independent and identically distributed random variables with mean  $\mu$  and a standard deviation  $\sigma$ , its average will have a mean  $\mu$  as well, but its standard deviation will be reduced to  $\sigma/\text{sqrt}(N)$ . Although this concept cannot be applied directly to our calculations since the system is dealing with maximum errors instead of standard deviations and we do not have ~~id~~ id variables, intuition tells us that the errors will be reduced in a similar form in which the standard deviation is reduced, in general, unless the maximum possible error ~~happen~~ happens to occur in each of our terms, something very unlikely.